

ABSTRACT OF THE DISCLOSURE

To decrease the content of a particulate material contained in an exhaust gas from a diesel engine or the like, the content of the particulate material is continuously decreased by generating plasma in the exhaust gas containing the particulate material to thereby produce a plurality of  $O(^1D)$  radicals and subsequently produce a plurality of per-hydroxide excited species, and oxidizing the particulate material by the per-hydroxide excited species.